Integrated Care Strategy

Updated Monitoring & Evaluation Framework

October 2016
Table of Contents

1. Background...................................................................................................................................................4
   1.1. Context and Purpose......................................................................................................................................4
2. The early Monitoring and Evaluation Framework.......................................................................................6
   2.1. A multifaceted methodology is required to deliver evidence-based guidance ....6
   2.2. Both summative and formative evaluations are essential components of the Framework ........................................6
   2.3. To be relevant to continuous improvement, measurement needs to capture local perspectives as well as statewide domains ............................................................7
   3.1. Development of the governance model........................................................................................................8
   3.2. Development of the Integrated Care Patient Journey model.................................................................9
   3.3. Development of the statewide enablers........................................................................................................9
       3.2.1. Risk Stratification ..........................................................................................................................10
       3.2.2. PRMs........................................................................................................................................10
       3.2.3. E-Enablement/ Shared Care Planning .......................................................................................11
   3.4. Picking up the lessons of the Chronic Disease Management Program: Alignment of Care for people with chronic conditions in NSW. ............................12
4. Implications of developments in the IC Strategy for the Monitoring and Evaluation Framework..............................................................................................................................14
   4.1. Updating the framework: key considerations..........................................................................................14
       4.1.2. Broadening the scope of the Monitoring and Evaluation Framework . 14
       4.1.3. Data acquisition .........................................................................................................................14
       4.1.4. Ethics .........................................................................................................................................16
   4.2. Refining the reporting approach ...............................................................................................................17
   4.3. Refinement of the summative evaluation approach...............................................................................18
Appendix A Integrated Care Indicators ........................................................................................................20
Appendix B Patient Reported Measures (PRMs)........................................................................................22
Appendix C eHealth........................................................................................................................................23
The NSW Health Integrated Care Strategy was announced in 2014. Subsequently, an Integrated Care Monitoring and Evaluation Framework was developed in the first half of 2015 to outline a planned approach to evidencing achievements and providing evidence-based guidance for Integrated Care at statewide and local levels.

The Framework outlines a multifaceted methodology considering patient, provider and system perspectives.

This updated version of the Framework reflects the ongoing and complex system change within the NSW Health Integrated Care environment and more broadly.

It seeks to:

- Outline key evolutionary developments – from a Monitoring and Evaluation perspective, in the implementation of the IC Strategy to date
- Provide context for the contemporary scope of the IC Strategy, its Monitoring and Evaluation Framework and consequent reporting needs
- Update the Framework in light of new knowledge

As the NSW Health Integrated Care Strategy evolves and implementation of initiatives continues, this Framework will remain a dynamic document, re-produced and updated as required.
1. Background

1.1. Context and Purpose

In March 2014, the New South Wales (NSW) Government announced the NSW Integrated Care Strategy, alongside an investment of $120 million from 2014-17. In 2015, the NSW Government committed another $60 million over two years, bringing the total investment to $180 million over six years.

The initial strategy proposed four strategic objectives (figure 1) that required system level change that would ultimately improve patient experience and outcomes. In order to evidence impact and support ongoing investment a number of mechanisms were identified to evidence achievements and support ongoing investment.

Figure 1. NSW Integrated Care Strategy Program Logic
The NSW Integrated Care (IC) Strategy Monitoring and Evaluation Framework was developed in the first half of 2015. The program of work envisaged by the IC Strategy is intended to stimulate transformational change in the way health services are planned, organised and delivered in NSW. From the outset, the complex change process required to deliver on the Strategy was recognised. The imperative for evidence-based guidance was an essential enabler for the Strategy and its work programs to harness new evidence, knowledge and shared learning generated by the initiative itself. It is equally critical that Government’s return on their investment in the transformation of care delivery in NSW be fully understood. The initial Monitoring and Evaluation Framework outlined the planned approach to evidencing achievements of the initiative and providing evidence-based guidance for its continuous improvement. It outlined the design of the Framework, the key measurement domains envisaged, and the process for implementation.

The intervening 12 months, since the development of the Monitoring and Evaluation Framework, has seen significant advances in the IC Strategy and its implementation. At its core, the strategy continues to focus on development of a health system that people can navigate easily, which offers a better experience and outcomes for people through providing connected health services and continuity of care and which offers better value, avoiding duplication of services and tests, and unnecessary hospitalisations. The ambition remains to routinely deliver person-centered, seamless, efficient and effective care, particularly for people with complex, long-term conditions.

As the Strategy has moved from planning to implementation, it has necessarily evolved in scope and scale of integrated care initiatives statewide. To continue to be fit for purpose, the Monitoring and Evaluation Framework needs to also evolve, to match the evolution of the IC Strategy.

This document seeks to:

- Outline key evolutionary developments – from a Monitoring and Evaluation perspective, in the implementation of the IC Strategy to date
- Provide context for the contemporary scope of the IC Strategy, and its Monitoring and Evaluation Framework and consequent reporting needs
- Update the Framework in light of new knowledge
2. The early Monitoring and Evaluation Framework

The initial Framework recognised that the Integrated Care Strategy is a large multifaceted program of work. It involves significant investment in enabling policy and infrastructure including technology solutions and tools, balanced with investment in developing local approaches. The environment is one of ongoing complex system change; the monitoring and evaluation framework must also be dynamic, adapting over time as innovation progresses and more evidence is obtained.

In its first iteration, the Framework posited enduring general principles to supporting continuous improvement and delivering evidence-based guidance, generation of knowledge and shared learning. The approach remains central to the ongoing monitoring and evaluation of integrated care, recognising three key principles:

2.1. A multifaceted methodology is required to deliver evidence-based guidance

This considers the engagement of patients/ carers/ consumers, clinicians, health managers, researchers and other key stakeholders in an ongoing process of data collection, measurement, analysis, interpretation and evaluation (Figure 2).

Figure 2. The interconnected domains of the monitoring and evaluation framework

2.2. Both summative and formative evaluations are essential components of the Framework

Formative evaluation takes place before or during a project’s implementation with the aim of improving the project’s design and performance.

Summative evaluation examines the impacts or outcomes of a program by describing what happens subsequent to its delivery (i.e. finding out what the project achieved).

The key envisaged elements of the monitoring and evaluation framework approach across the spectrum of formative and summative components is summarised in Figure 3.
Figure 3. Monitoring and Evaluation Framework approach

2.3. To be relevant to continuous improvement, measurement needs to capture local perspectives as well as statewide domains

Monitoring of both statewide and LHD-specific indicators is required for a comprehensive monitoring and evaluation framework. The early Framework also recognised that in real-world system change implementation, central and local implementation may have different timelines, and will likely be mutually influencing. The key implication of this principle is that, from the outset, it was envisaged that important changes in the IC Strategy would need to inform future iterations of the Framework.

To date, local perspectives have been captured via:

- Consultation and qualitative review and reporting conducted by the Systems Relationship Branch (SRB)
- Interim process reporting conducted by HSIPR

Local provider perspectives have been piloted among Demonstrator sites and rolled out statewide in 2016.

Many sites have opted to commission local independent evaluations of their programs, working with research institutes and consultancies to undertake independent qualitative and/or quantitative analysis of their work to date. This raft of information will contribute and compliment the work being done at a state level and will add a layer of detail to the information and knowledge available. The time lines behind this work will vary with schedules being linked to program milestones and activity.
The Agency for Clinical Innovation (ACI) are leading Patient Reported Measures, to enable patients to provide direct and timely feedback about their health-related outcomes (PROM) and experience (PREM) to drive improvements and integration of health care in NSW. They are currently supporting up to ten Proof of Concept sites across NSW. A status report from June 2016 and a sample of the question set are shown in Appendix B, Patient Reported Measures (PRMs).


3.1. Development of the governance model

Initially, governance for integrated care focused on the establishment of the three LHD ‘Demonstrator sites’. The Ministry set up an Integrated Care Advisory Group (ICAG) to:

a) Steer the development of the Integrated Care Strategy for NSW; and,

b) Advise on the appropriate allocation of integrated care funding.

As implementation of the Integrated Care Strategy progressed to statewide roll out, Integrated Care governance evolved to a ‘distributed management model’¹. Three central governance groups have been established, with local LHD/SHNs establishing their own local project governance.

- **The Integrated Care Implementation Group** (ICIG), chaired by the NSW Health Secretary ensures coherent planning, resourcing and oversight of the progress of implementation across the program of work. Membership includes the Deputy Secretaries of Strategy and Resources and System Purchasing and Performance and the Chief Executives of the Agency for Clinical Innovation and eHealth NSW. Invited attendees include Integrated Care Directors and Demonstrator Chief Executives.

- **The Integrated Care Directors** (from the Ministry’s System Performance Support Branch, Health System Information and Performance Reporting Branch, ACI’s Primary Care and Chronic Services and Clinical Program Design and Implementation; and eHealth NSW’s Innovation, Strategy and Architecture branch and Clinical Programs) report to ICIG executives and lead on defined programs of work (state-wide enablers and performance management of LHD/SHN projects) as part of their portfolio responsibilities.

- **Integrated Care Program Managers** (ICOG) report to relevant Integrated Care Directors and have responsibility for the day to day design and development of state-wide enablers, communication and engaging and providing support to Integrated Care project leads in LHDs and Specialty Networks.

¹ Distributes activities across self-governing enterprises in ways that are advantageous for the group as well as for the designer’s own firm or community (Carliss Y. Baldwin, *Organizational Design for Distributed Innovation*, Harvard Business School, May 2012)
3.2. Development of the Integrated Care Patient Journey model

A detailed delivery framework of an integrated model of care (Figure 4) has emerged from collaborative work with LHDs/SHNs, and during the design of statewide enablers. This framework enables definition of consistent processes and tools across the variable LHD/SHN projects as well as knowledge sharing, experiential learning and a robust data approach to monitoring and evaluation.

![Figure 4. Integrated Care Patient Journey Model of Care & Enabling Elements](source: NSW Agency for Clinical Innovation. Patient Identification and Selection Handbook.)

Key Elements & Enablers

- **Targeting & Patient Identification** – Choose and quantify target cohort, informed by a local population health needs assessment. Identification of individual patients at risk of potentially preventable hospitalisations through searching of routinely collected data using a standard set of risk predictors.

- **Patient Selection** – Selection of individual patients at risk of potentially preventable hospitalisations whose health outcomes could be improved with integrated care interventions based on additional screening for predictive factors not available electronically (e.g. cognitive, social) using a standardised screening tool.

- **Patient Consent** – Based on patient selection process a decision is made if patient risk level indicates potential benefit from Integrated Care interventions. If so Patient Consent is undertaken for intake and data sharing for the range of Integrated Care Intervention.

- **Matching to Integrated Care Interventions** – Also as part of Patient Selection the patient is matched to appropriate Integrated Care Interventions (as well as usual care referrals), e.g., health coaching; Care navigation; Care coordination; Shared care planning & systematic assessments.

- **Clinical Information Exchange Enablers**, including systems interfaces, secure messages and clinical repositories to facilitate exchange of patient clinical information between care providers (point to point).

3.3. Development of the statewide enablers

A key plank of the IC Strategy was the design of statewide enablers: risk stratification, patient reported outcome and experience measures, monitoring and evaluation, and e-enablement. From the outset, the development of these occurred in parallel to local Integrated Care initiative development. This meant that LHDs/SHNs could not rely on access to statewide enablers in the planning and launching of local initiatives. The process of the development of the statewide enables has continued in parallel, collaboratively with LHDs, via working groups and pilots related to the design and trialing of enablers.

What has emerged from the work on statewide enablers and the evolution of a framework for an integrated care model of care has been clear definition of the role of statewide enablers in delivering that model.
3.2.1. Risk Stratification

The ACI has undertaken Evidence Checks with the Sax Institute in Australia and has published a NSW Health Risk Stratification Handbook in October 2015. (See Section 4.1 Risk Stratification in First Formative Evaluation of NSW Health 2014 Integrated Care Strategy, November 2015).

In the NSW Health Integrated Care context ‘risk stratification’ is defined as: a systematic process to target, identify and select patients who are at risk of poorer health outcomes, and who are expected to benefit most from a particular intervention/suite of interventions. The three stages of a risk stratification approach are defined as:

- **Targeting** – choose and quantify the cohort of patients at risk of poorer health outcomes (e.g. potentially preventable hospitalisations) that are considered a priority for targeting with different or additional intervention(s).
- **Identification** – identify individuals within the target cohort. This is achieved primarily through automated searching of routinely collected clinical and demographic data held in electronic databases using a standardised set of risk predictors.
- **Selection** – use a selection tool to undertake further assessment of each identified patient’s modifiable risk factors, and match their needs to the most appropriate integrated care intervention(s). This can be administered via telephone or face to face interviews with the patient, and generally requires information not held in the electronic medical records.

Planning a risk stratification approach is iterative; defining a target cohort, identifying and selecting patients for integrated care strategies and designing integrated care interventions. These iterations are interdependent and will be influenced by such factors as availability of defined electronic data, resources available for selection and enrolment and capacity for refinement based on monitoring and evaluation of outcomes.

In January 2016 the risk stratification program of work was transitioned from ACI to the Ministry of Health. Currently, systematic approaches for large scale risk stratification approaches utilising admitted patient and emergency department data are being road-tested.

3.2.2. PRMs

The ACI completed a literature review, collaborated with LHDs on the definition of question sets for Patient Outcome Measures and Patient Experience Measures and selected an IT platform. In late 2015, four pilot sites (Western NSW, Western Sydney, Mid-North Coast, and Northern Sydney) began to implement the finalised solution of incorporating Patient Reported Outcome Measures into the normal workflow of a clinical interaction with the patient.²

It is envisaged that data collected as part of the pilot will be available as part of the de-identified data for the Monitoring and Evaluation work stream. The ACI team will use the experience gained in the pilot to assess the barriers and enablers to embedding the collection of and reflection on PRMs in business as usual clinical care to inform integrated care. As data collection ramps up in the second half of 2015, sufficient data is likely to become available to enable meaningful analysis at a descriptive level. As measurements are repeated across time, trends in them, and associations with utilization outcome data will be possible.

A progress report and PRMs question set is included in Appendix B Patient Reported Measures (PRMs).

3.2.3. E-Enablement/ Shared Care Planning

The importance of an electronic unique identifier for patients to enable better integration of their care is well recognised, both at the state and national levels. The rollout of the eMR Connect program will achieve an Integrated Digital Patient Record (see Appendix C, eHealth Progress). These NSW Health endeavours dovetail with national endeavours to establish the Individual Health Identifier (IHI) and the national roll out of My Health Record, the individually controlled secure online summary of an individual’s health information. Alongside Shared Care Planning these tools aim to appropriately extend the digital patient record across the continuum of care.

eHealth NSW has supported key early engagement with LHDs to produce a strategic architecture based on the core capabilities required for integrated care and initial prioritisation of technology enablers. The Integrated Care System Architecture is being designed based on emerging priorities, with a suit of supporting material for integrated care technology enablement recently published.3

The statewide rollout of HealthNet has continued, as eHealth NSW continues to work with the Demonstrators, Innovators and ACI in addressing the technology needs for enabling Integrated Care.

The three key technology enabled information sharing approaches outlined in the recent eHealth NSW publication include:

- Summary clinical documents shared via Repositories
- Point to point secure messaging and eReferral
- Collaboration via a Shared Care Platform

Key elements that will help enable and/or improve the efficiency and effectiveness of both the Integrated Care Programs and local and state Monitoring & Evaluation of them are:

- Electronically enabled risk stratification and information sharing e-enablement, especially between acute, primary and community sectors; and
- Electronic tracking of the Integrated Care patients’ healthcare journey.

Currently, where these approaches exist across the State, they do so in varied systems, applications and stages of implementation and integration with business process. The level of access that LHDs have to this technology also varies due to barriers such as infrastructure, resource capacity and capability and the maturity and robustness of Integrated Care initiatives.

A progress report from e-Health (May 2016) is included in Appendix C eHealth Progress.
3.4. Picking up the lessons of the Chronic Disease Management Program: Alignment of Care for people with chronic conditions in NSW.

Delivering person-centered, seamless, efficient and effective care for people with complex, long-term conditions has been a focus of the IC Strategy since its inception. Between 2010 and 2014 all NSW Local Health Districts (LHD) were funded to deliver the Chronic Disease Management Program (CDMP) whose strategic objective was to deliver effective health management for people with chronic diseases at high risk of unplanned hospital or Emergency Department presentation. As of December 2015, the Program had enrolled 103,193 people over five years. CDMP represents an unprecedented ‘at scale’ approach to integrated care.

The alignment between the aspirations of the CDMP and the aims of the IC Strategy were obvious, namely to provide seamless, effective and efficient care that reflects the whole of a person’s health needs:

- from prevention through to end of life, across both physical and mental health, and in partnership with the individual, their carers and family;
- greater focus on a person’s needs, better communication and connectivity between health care providers in primary care, community and hospital settings; and,
- better access to community-based services close to home.5

In 2015, the Statewide Evaluation of the NSW Chronic Disease Management Program was published.6 Lessons learned from delivering the large scale NSW Chronic Disease Management Program (CDMP) and the establishment of Primary Health Networks (PHNs) presented key supports to the operational aims of the 2014 NSW Integrated Care Strategy.

During 2015, the CDMP was aligned with the Integrated Care Strategy due to synergies in the aims and objectives of both initiatives. Throughout 2016, the Ministry has worked in consultation with Local Health Districts to identify a strategy to support alignment at a local level7.

The Integrated Care Implementation Group (ICIG) endorsed CDM redesign recommendations and implementation planning followed, including:

- A program logic that aligns CDM to the Integrated Care Strategy
- Revised metrics in the 2016/2017 LHD Service Agreements
- Electronic patient identification (in both LHD and primary care data sets) of at risk persons with chronic conditions
- Screening of those persons identified to select patients those who could benefit from integrated care interventions (whose risks are modifiable based on known predictors of potentially preventable hospitalisation)
- Matching of persons selected to specific integrated care interventions (such as shared care planning)
- The introduction of a KPI to support the transition of CDM cohort patients’ into the integrated care cohort.
- A revised model, targeting care for transitioning current CDMP patients and new patients with chronic and complex conditions was developed collaboratively with LHDs, PHNs, Pillars and eHealth.

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7 For more details see: Schulman, C (2015) First Formative Evaluation of NSW Health 2014 Integrated Care Strategy
Figure 5. Transition of CDMP enrollees to Integrated Care

Applying the KPI for Integrated Care Program Transition Performance (%)

**Targeting**
- Current CDMP patients

**Identification**
- NSW Chronic Conditions Patient Identification Tool
- Identification Report
- Local prioritisation

**Selection**
- NSW Chronic Conditions Patient Selection Tool
- Selection Form
- IC required

**Match to Integrated Care Intervention(s)**
- Integrated Care Interventions
  - Self-management / health coaching
  - Care navigation / non-clinical coordination
  - Care Management / clinical coordination
- ‘Usual Care’
- Local interventions
- Multidisciplinary / shared care plan

**Match to Integrated Care Intervention(s)**
- Patient tracking & program monitoring
- Regular review

**Key:**
- D: Denominator
- N: Numerator

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**Indicator:** Percentage of Chronic Disease Management (CDM) Program enrollees who have been risk stratified (assessed for suitability for entrance into the integrated care program).

**Indicator Definition:** The percentage of Chronic Disease Management (CDM) Program enrollees who have been risk stratified (assessed for suitability for entrance into the integrated care program).

**Denominator Definition:** Total number of living CDM Program enrollees as at end of December 2015.

**Numerator Definition:** Number of CDM Program enrollees who have been risk stratified (assessed for suitability for entrance into the integrated care program).
4. Implications of developments in the IC Strategy for the Monitoring and Evaluation Framework

4.1. Updating the framework: key considerations

4.1.2. Broadening the scope of the Monitoring and Evaluation Framework

Over the course of the implementation of the IC Strategy, the monitoring and evaluation approach has needed to broaden its scope to ensure it remained policy-relevant.

**Demonstrators and Innovators** – It became clear from the discussions at ICIG and a range of engagement forums that monitoring and evaluation scope needed to expand, and encompass both Demonstrator and Innovator progress. The expansion represents the evolution from ‘project-based’ thinking to ‘system reform’ thinking. Evaluating a range of programs across NSW with variation in target groups and models of care presents some obvious challenges. This will be addressed through collaboration across MoH branches to gather and collate data and knowledge that will help inform future investment.

**Integrated Care and CDM** – Patients enrolled in the CDMP are progressively being reassessed as part of the IC Strategy and transitioned into appropriate care which may be IC programs. For the Monitoring and Evaluation Framework, the cohort to be tracked increased many-fold, and presented both challenges and opportunities. The opportunity lies in the well-established processes in LHDs for tracking CDMP enrollees; the challenge lies in the identification of transitioned patients.

4.1.3. Data acquisition

Tracking individual patient journeys, linking across both episodes of care and across time for individuals, is critical to understanding (i.e. monitoring and evaluating) effectiveness and efficiency of services, and guiding policy.

Two key challenges remain for monitoring and evaluation:

**Identifying the IC patient cohort** – Establishing a trackable cohort who might be monitored over a sustained period of time requires patient identification/selection to be efficiently recorded with the information automatically uploaded to a central database for reporting purposes. The key features of establishing a trackable cohort include:

- A process to provide minimum identifying details to allow the identified/selected patients to be tracked and linked to different data sets over time.
- A process for collection of patient registration details and reporting that complies with current privacy laws and legislation.
- A technical eHealth solution – likely requiring changes to local business processes, that has agreement and cooperation among a broad range of stakeholders including PHNs and General Practice as well as NSW Health LHDs and MOH.

**Tracking IC patients across the continuum of care** – At present, data is routinely linked between most public administrative data collections in health and includes linkage with mortality data. Tracking a patient’s journey through in-patient and emergency episodes is
routine and timely in NSW. However, individual health-related data for tracking the patient journey through health services across the continuum of care are limited. Health data are not, for example, routinely linked between the provision of health care in the community (and rarely linked to primary care data) and outcomes such as emergency presentation and mortality. However, this latter information is integral to the monitoring and evaluation of the IC Strategy, with its central tenet of more appropriate care in the community.

There are both technical and ethical impediments to the creation of whole-of-journey data for patients and these impediments are intertwined. At the most technical end of the spectrum, the data systems used in primary care vary. Their one invariant feature is that there is no connectivity with the acute sector. This feature means that even recording of enrolments in IC from primary care – an explicit ambition of the Strategy – are difficult to achieve. In part, the current situation reflects that privacy considerations which are part of a much larger policy agenda in Australia (for example MyHealthRecord), but which nevertheless present a significant challenge for the IC Strategy and its ambition for an holistic approach driving more appropriate care in the community.

The latest conceptual architecture for patient identification, selection, tracking and monitoring appears in the figure below:

![Figure 6. Conceptual Architecture for tracking and monitoring of the Integrated Care Patient cohort (inclusive of CDMP transitioned cohort)](image)

By July 2017 all functional requirements will have been documented and all proof of concept demonstrator and innovator sites evaluated.

Using the functional requirements and results of the evaluation as input, common technology solutions to support integrated care will be implemented across the state.
4.1.4. Ethics

Tracking cohorts of patients to understand their journey involves linkage of data about service utilization and patient outcomes. Data linkage in NSW, as elsewhere nationally and internationally, carries with it a range of ethical considerations and legal obligations.

The ethical approach to monitoring and evaluation of IC has involved a four-part solution.

1. Data linkage for enrolled IC patients
Integrated care patients will be identified by LHDs, irrespective of where they first are enrolled (that is in Primary Care or in Acute Care). Linkage of APDC, EDDC, and mortality register data will be undertaken via the Health Administration Regulations (See

2. Linkage of PRMs and utilisation data
It is envisaged that sufficient demographic detail will be collected as part of the PROMs administration to enable linkage with the service utilisation data. Patients will have a reasonable expectation that their responses will be used for the purposes of service improvement. The approach will be road-tested with the pilot data collection currently underway.

3. Updating the Chronic Disease Management Program Outcomes Register (CDMP OR)
The first CDMP OR, under the Public Health Legislation, captured patients enrolled in the CDMP between 2011 and 2013, inclusive. The updated register captures patients enrolled between 2011 and 2015, inclusive, using the flag that exists in most LHDs currently. Following analysis of surviving enrolees, the transition of CDM patients into IC will be tracked using the data linkage processes for the IC cohorts.

4. Linkage of primary care data and acute service utilisation data for integrated care patients
Western Sydney Local Health District (WSLHD), WentWest Primary Health Network (PHN), the Health Information and System Reporting (HSIPR) branch of the Ministry and the Centre for Health Record Linkage (CHeReL) are undertaking a proof of concept project to test the use of General Practice Electronic Health Records for data linkage, linking individuals’ data across multiple administrative, health-related datasets. The aims are to:

- provide information that will increase General Practitioners’ understanding of the care delivered to their patients outside their practice.
- determine patterns of GP attendance in relation to other health service utilisation that might assist in the stratification of patients’ risk of deterioration.

This study, recently approved by the NSW Population Health Services and Research Ethics Committee, will link the information from NSW hospitalisation, emergency department and mortality data for patients who have been seen at participating General Practices in WentWest Primary Health Network via the General Practice Electronic Health Record. This study has been designed to be scalable with a view to expanding to other practices across NSW and possibly being undertaken on a regular basis in the future.

Pen Clinical Audit Tool (PenCAT TM) technology will be used to extract GP electronic health records at a patient record (per GP practice) level. Identifying information will be used to link records for the GP patients to the other data collections in the Centre for Health Record Linkage. Linkage keys will then be returned to the data custodians to anonymously extract

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8 NSW Public Health Act 2010, Sections 97 & 98
patient health-related data from the source datasets. High-level data security will be observed at all steps of the project so that privacy and secure data storage are maintained.

4.2. Refining the reporting approach

From the foregoing it is clear that the expectations for monitoring and evaluation of the Integrated Care Strategy are ambitious. At the same time, implementation by LHDs is proceeding at pace. Continuous improvement depends on timely feedback and reporting on progress. Accordingly, interim reporting approaches are in train/ planned, while longer term reporting mechanisms from monitoring and evaluation – and their E-enablers – continue to be developed.

The Health System Information and Performance Reporting branch of the Ministry has worked closely with LHDs and SHNs to document their program logic and has launched a system of Interim Measures that enables a statewide view of progress toward achieving the outputs / outcomes of the IC Strategy while designing the longer term monitoring of patient, provider and system outcomes.

Interim process measures framework

The first monitoring reporting phase began with a pilot across Demonstrator sites in August 2015 and was extended to Innovators in September 2015. A third and final Interim process measures report was delivered in December 2015.

The aim of Interim Progress Measures Reporting was to initiate Statewide Reporting regarding LHD/SHN project progress to integrated care process measures (vs project plan progress reported via RPM) until such time as output/outcome measures can be captured and collated effectively and efficiently. The report also evidenced areas (either LHD-specific or activity-specific) requiring assistance, performance monitoring and / or analysis of findings to understand process delays.

The design of the interim measures was based on seven of the seventeen functional components – focusing on those that are leading indicators of operational implementation.

The collection of Interim Progress Measures was based on phone interviews with Integrated Care project leads in each LHD. The results of the first collection of Interim Progress Measures are summarised below and were tabled and discussed at the September 2015 Integrated Care Implementation Group meeting. The key dimensions are presented (with sample scoring only) below.

Figure 7. Integrated care interim process reporting sample 2015

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10 For further details see Schulman, C (2015) First Formative Evaluation of NSW Health 2014 Integrated Care Strategy
The findings of the summary report above were supplemented by a summary of key challenges / barriers to progress identified during data collection interviews.

4.3. **Refinement of the summative evaluation approach**

Overall, the key domains of interest outlined in the first iteration of the Monitoring and Evaluation framework remain central to understanding the impact of the IC strategy and guiding policy improvement. Table 1 Core indicators circa 2015 presents the core indicators originally proposed.

Table 1 Core indicators circa 2015

<table>
<thead>
<tr>
<th>PRELIMINARY CORE INDICATORS</th>
<th>Type of indicator</th>
<th>Perspective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient enrolments (number)</td>
<td>Process</td>
<td>Patient</td>
</tr>
<tr>
<td>Actively managed care plans (number)</td>
<td>Process</td>
<td>Patient</td>
</tr>
<tr>
<td>GP engagement (number)</td>
<td>Process</td>
<td>Provider</td>
</tr>
<tr>
<td>Electronic discharge summaries to GPs (% of all discharges within a certain timeframe, e.g. 24 hrs)</td>
<td>Process</td>
<td>System</td>
</tr>
<tr>
<td>Patient reported measures (to be defined)</td>
<td>Outcome</td>
<td>Patient</td>
</tr>
<tr>
<td>Provider reported measures (to be defined)</td>
<td>Outcome</td>
<td>Provider</td>
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<td>ED attendances (number for target cohort – change over time)</td>
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<td>System</td>
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<td>Acute unplanned admissions (number for target cohort – change over time)</td>
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<td>Diagnostics tests (number of tests for target cohort – change over time)</td>
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<td>System</td>
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<tr>
<td>Program expenditure against Budget ($)</td>
<td>Input</td>
<td>System</td>
</tr>
</tbody>
</table>

*Source: Monitoring and Evaluation Framework, 2015*

The indicators have been updated to reflect:

- contextual changes;
- evolution of the strategy;
- new tools; and,
- a staggered approach by cohort and site.

Broadly, the core indicators are envisaged as part of a three-tranche roll-out of data collection. Each tranche is explained below, with further detail on the Core Indicators outlined in Appendix A Integrated Care Indicators.

**Tranche 1: collection of data about IC patients from Demonstrator sites:**

- To be reported from March 2016
- As an interim process, details for patients who are selected will be collected by the 3 Demonstrator LHDs, manually recorded on excel spread sheets and submitted to HSPIRB on a biannual basis in the first instance.
- Collection of patient selection details will comply with NSW privacy legislative requirements for the collection of personal health information.
- The Demonstrator LHDs will be responsible for the data collection of patient registrations occurring in primary care and in acute care in their catchment.
• Monitoring will commence using manual collection of data with the Demonstrator sites only until a technical eHealth solution has been rolled out to all LHDs (including the required engagement and change management process with primary care providers)

Tranche 2: Statewide Indicators & collecting Tranche 1 indicators for some Innovators:
• Tranche 2 Indicators to be reported from early 2017 for selected LHDs/SHNs
• The indicators in the short term reflect the transition of the CDMP enrollees to IC
• CDM patients will progressively transition into the IC cohort, and reporting will be captured by the statewide collection
• Disaggregation by health condition/ status will enable different cohorts to be reported separately
• As Innovators sites mature in their local implementations they will be asked to report Tranche 1 indicators along with Demonstrators and be added to the monitored IC M&E patient cohort.

Tranche 3: Statewide collection of data about IC patients & collecting Tranche 1 indicators for some Innovators
• Monitoring of key indicators will commence state-wide from 1 July 2017 supported by the appropriate technology.
• All LHD/SHNs are expected to be reporting patient level data to enable the reporting against indicators in Tranche 1, 2 and 3. The electronically enabled risk stratification tool will facilitate this and is expected to be delivered and deployed during the 2016/17 FY.

Progressive addition of new data elements

It is envisaged that, alongside the three broad tranches, the indicator set will become progressively more and more complete, as E-enablement, pilot collections and proof-of-concept data collections transition to business as usual.

The approaches to obtaining Patient Reported Outcome Measures (PROMs), and Primary Care data have been described above.

An approach for obtaining provider experience is also currently being piloted. Once a critical volume of data is available, these results will be included in future reports.

The availability of local evaluation reports coordinated at LHD level will also provide qualitative information on implementation lessons and evidence of stakeholder engagement and understanding amongst other early indicators of strategy success.
## Appendix A Integrated Care Indicators

### Table A -1 Core Indicator as at March 2016

<table>
<thead>
<tr>
<th>Core indicators</th>
<th>Type of indicator</th>
<th>Perspective</th>
<th>Cohort</th>
<th>Site</th>
<th>Commencement</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>FIRST TRANCHE</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patient Enrolment (number)</td>
<td>Process</td>
<td>Patient</td>
<td>IC</td>
<td>Demonstrators</td>
<td>Mar 16</td>
</tr>
<tr>
<td>Number of patients who have completed Patient Reported Measures tool.</td>
<td>Process</td>
<td>Patient</td>
<td>IC</td>
<td>Pilot sites</td>
<td>Mar 16</td>
</tr>
<tr>
<td>Patient Reported Outcome</td>
<td>Outcome</td>
<td>Patient</td>
<td>IC</td>
<td>Pilot sites</td>
<td>Mar 16</td>
</tr>
<tr>
<td>Emergency Department (ED) presentations for integrated care patients by triage category</td>
<td>Outcome</td>
<td>System</td>
<td>IC</td>
<td>Demonstrators</td>
<td>Mar 16</td>
</tr>
<tr>
<td>Planned hospital admissions for integrated care patients</td>
<td>Outcome</td>
<td>System</td>
<td>IC</td>
<td>Demonstrators</td>
<td>Mar 16</td>
</tr>
<tr>
<td>Unplanned hospital admissions for integrated care patients</td>
<td>Outcome</td>
<td>System</td>
<td>IC</td>
<td>Demonstrators</td>
<td>Mar 16</td>
</tr>
<tr>
<td>Unplanned Hospital Readmissions within 28 days for integrated care patients</td>
<td>Outcome</td>
<td>System</td>
<td>IC</td>
<td>Demonstrators</td>
<td>Mar 16</td>
</tr>
<tr>
<td>ED attendances within 28 days of hospital discharge for integrated care patients</td>
<td>Outcome</td>
<td>System</td>
<td>IC</td>
<td>Demonstrators</td>
<td>Mar 16</td>
</tr>
<tr>
<td>Average Length of Stay for integrated care patients</td>
<td>Outcome</td>
<td>System</td>
<td>IC</td>
<td>Demonstrators</td>
<td>Mar 16</td>
</tr>
<tr>
<td>Mortality for integrated care patients</td>
<td>Outcome</td>
<td>Patient</td>
<td>IC</td>
<td>Demonstrators</td>
<td>Mar 16</td>
</tr>
<tr>
<td>Number of providers who have completed Integrated Care Provider Survey</td>
<td>Process</td>
<td>Provider</td>
<td>IC</td>
<td>Demonstrators</td>
<td>Mar 16</td>
</tr>
<tr>
<td>Provider experience</td>
<td>Outcome</td>
<td>Provider</td>
<td>IC</td>
<td>Pilot sites</td>
<td>Mar 16</td>
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</table>

<table>
<thead>
<tr>
<th><strong>SECOND TRANCHE</strong></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>The percentage of Chronic Disease Management (CDM) Program enrollees who have been risk stratified (assessed for suitability for entrance into the integrated care program)</td>
<td>Process</td>
<td>Patient</td>
<td>CDM</td>
<td>Statewide</td>
<td>Mar 16</td>
</tr>
<tr>
<td>Percentage of CDM patients transitioned to IC cohort with an identified GP custodian</td>
<td>Process</td>
<td>Patient</td>
<td>CDM</td>
<td>Statewide</td>
<td>Mar 16</td>
</tr>
<tr>
<td>Emergency Department attendances by triage category for CDM patients transitioned to IC cohort</td>
<td>Outcome</td>
<td>System</td>
<td>CDM</td>
<td>Statewide</td>
<td>Mar 16</td>
</tr>
<tr>
<td>Indicator</td>
<td>Category</td>
<td>Dimension</td>
<td>Level</td>
<td>Date</td>
<td></td>
</tr>
<tr>
<td>--------------------------------------------------------------------------</td>
<td>----------</td>
<td>-----------</td>
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<td></td>
</tr>
<tr>
<td>Patient Enrolment (number)</td>
<td>Process</td>
<td>Patient</td>
<td>IC</td>
<td>Jul 17</td>
<td></td>
</tr>
<tr>
<td>Actively managed Care plans</td>
<td>Process</td>
<td>Patient</td>
<td>IC</td>
<td>Jul 17</td>
<td></td>
</tr>
<tr>
<td>Number of patients who have completed Patient Reported Measures tool</td>
<td>Process</td>
<td>Patient</td>
<td>IC</td>
<td>Jul 17</td>
<td></td>
</tr>
<tr>
<td>Patient Reported Outcome</td>
<td>Outcome</td>
<td>Patient</td>
<td>IC</td>
<td>Jul 17</td>
<td></td>
</tr>
<tr>
<td>Emergency Department (ED) presentations for integrated care patients by triage category</td>
<td>Outcome</td>
<td>System</td>
<td>IC</td>
<td>Jul 17</td>
<td></td>
</tr>
<tr>
<td>Planned hospital admissions for integrated care patients</td>
<td>Outcome</td>
<td>System</td>
<td>IC</td>
<td>Jul 17</td>
<td></td>
</tr>
<tr>
<td>Unplanned hospital admissions for integrated care patients</td>
<td>Outcome</td>
<td>System</td>
<td>IC</td>
<td>Jul 17</td>
<td></td>
</tr>
<tr>
<td>Unplanned Hospital Readmissions within 28 days for integrated care patients</td>
<td>Outcome</td>
<td>System</td>
<td>IC</td>
<td>Jul 17</td>
<td></td>
</tr>
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<td>ED attendances within 28 days of hospital discharge for integrated care patients</td>
<td>Outcome</td>
<td>System</td>
<td>IC</td>
<td>Jul 17</td>
<td></td>
</tr>
<tr>
<td>Average Length of Stay for integrated care patients</td>
<td>Outcome</td>
<td>System</td>
<td>IC</td>
<td>Jul 17</td>
<td></td>
</tr>
<tr>
<td>Mortality for integrated care patients</td>
<td>Outcome</td>
<td>Patient</td>
<td>IC</td>
<td>Jul 17</td>
<td></td>
</tr>
<tr>
<td>Provider experience</td>
<td>Outcome</td>
<td>Provider</td>
<td>IC</td>
<td>Jul 17</td>
<td></td>
</tr>
</tbody>
</table>

Definitions for these indicators will be provided with each Integrated Care Patient Monitoring and Evaluation Report.
Appendix B Patient Reported Measures (PRMs)

Figure B - 1 Patient Reported Measures Question Set: June 2016

Key achievements to date

1. PRMs question set finalised
2. IT system for collection and reporting of data developed
3. Capability Development Program designed
4. Launch of PRMs program by Health Minister November 2015
5. High level of engagement of Primary Care/GP practices to collect/respond to the data

Key lessons learned

1. E-enablement requires integration across multiple systems and networks
2. Reporting portals need to communicate directly with existing software
3. Selection and identification of patient cohort and questions presents a challenge (i.e. finding a balance between the needs of clinicians, and patients as well as the practicabilities of effective survey delivery.

Areas of Activity:

- Ten proof of concept sites, including engagement with:
  - Nine Local Health Districts and Specialty Health Networks and
  - Six Primary Healthcare services

Number of PRM Surveys Complete:

- Completed: 27
- In progress: 23

Expected milestones for 2016

1. Capability Development – online modules completed (June 2016)
2. Continue to support proof of concept sites (ongoing)
3. Evaluation and options paper for e-enabled system (October 2016)
4. Enhancement to existing reporting portal (July 2016)

Figure B - 2 Patient Reported Measures Progress Report: June 2016

PROM Questions are inclusive of Generic Health Related Quality of Life (HRQoL) – PROMIS; and various validated condition specific measures and tools.
PROMs have been compiled using evidence based research and an extensive consultation and cognitive testing with stakeholders (inclusive of clinicians and consumers) form across the depth and breadth of the NSW Health system (inclusive of Primary Healthcare and Local Health Districts).

Patient Reported Measures enables patients to provide directly timely feedback about their health-related outcomes (PROM) and experience (PREM) to drive improvements and integration of health care in NSW, i.e. to focus care delivery on Outcomes that matter to patients.

In doing this, the PRM program will endeavour to reduce the burden on clinicians and patients and add value to their interactions.

PROM (exclusing demographic questions)

<table>
<thead>
<tr>
<th>Question</th>
<th>PROMS Response Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>How often do you feel:</td>
<td></td>
</tr>
<tr>
<td>Very Bad</td>
<td></td>
</tr>
<tr>
<td>Bad</td>
<td></td>
</tr>
<tr>
<td>Fair</td>
<td></td>
</tr>
<tr>
<td>Good</td>
<td></td>
</tr>
<tr>
<td>Very Good</td>
<td></td>
</tr>
</tbody>
</table>

Response Scale ( varied)

- How often do you feel your energy: on average?
- How much did your health problem affect your daily activities: on average?
- How often do you feel your energy: on average?
- How much did your health problem affect your daily activities: on average?
- How often do you feel your energy: on average?
Appendix C eHealth Progress

Figure C-1 eHealth eEnablement Progress Report: May 2016

Four pillars that enable Integrated Care (IC) are People, Process, Data & Technology. Currently there are varying levels of engagement and adoption of Technology. eHealth is engaged in 13 initiatives across the state that aim to define and implement technology components of IC. The eHealth Integrated Care team has prepared for an increase in demand for technology enablement and requirements definition. This year the aim of the team is to proactively support, advise and enable the introduction and testing of clinical applications to support integrated models of care.

Enabling across the state

AREAS OF ACTIVITY:

1) **Analytics**: eHealth will be responsible for facilitating the design and build of a state analytics solution (identification, Risk Stratification, Selection, Tracking, Reporting tool) for IC/COM patients. Work will commence from June 2016 and due for completion in Dec 2016.

2) **Shared Care Planning (SCP)**: Most LHDs & PHNs implementing SCP are within the planning or procurement stages. Western NSW (WNSW) and Western Sydney (WSyd) are the only two districts where SCP is live. In partnership with WNSW, Northern NSW (NNSW) is currently configuring the build of a SCP solution (Go live expected Dec 2016).

3) **eReferrals**: eHealth has received endorsement from the IC Directors to undertake a piece of work to devise an eReferral business model for NSW Health. Hunter New England (HNE) is currently working with eHealth to develop an evaluation framework for the HNE eRef project. The evaluation is due to be completed later this year.

4) **Patient Reported Measures**: Further development of the reporting end of the ReCap application is currently being scoped and designed with the eHealth team. Build is due to be completed end of June 2016.

5) **Integration**: HEIN Integration with LinkedHR in WSyd is near complete. Project in Far West LHD to integrate GP Practice software with the Fast track clinic in Broken Hill (Due to be completed Sept 16)

KEY ENABLING ACTIVITIES

1. Support with defining business requirements
2. Turning business req’s into application functionality req’s
3. Providing an evaluation framework for “Proof of Concepts” (PoC)
4. Providing project management tools
5. ICT Requirement gathering
6. ICT & Vendor specialist knowledge repository
7. Hosting of PoC applications

Key Lessons Learned

- Varying levels of understanding & documenting true business requirements prior to vendor selection
- Capability challenges within LHDs to map business requirements and turn into functional requirements
- To undertake effective evaluation eHealth needs to define a future vision for eHealth architecture for IC
- The inherent difficulty with integration of systems/organisations outside of NSW Health (including data sharing complexities)
- Challenges with state and federal limitations around sharing patient information across NSW Health and Primary Care boundaries
- Achieving greater clarity on Patient Privacy and Consent within IC

Expected milestones for 2016

1. eHealth Integrated Care Requirements Gathering Framework (June 2016)
2. eHealth Proof of Concept Implementation Framework (June 2016)
3. PHM Application extra design and build for reporting (July 2016)
4. PHM solution evaluation (Aug 2016)
5. FW NSW GP Practice Software integration with eMR (Sept 2016)
6. NNSW/WNSW/Orion Shared Care Platform Design and Build (Nov 2016)
7. Analytics application (Dec 2016)
9. NNSW/COMNet evaluation (Later this year)
10. HNE e-Referral evaluation (Later this year)
11. Review of eHealth Integrated Care Business and Application Architecture Vision
12. eReferral business architecture model development (Later this year)